

Regional Sediment Management: NY & NJ Harbor Estuary

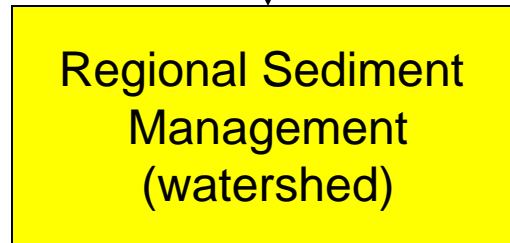
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P. Greges**

USEPA Region 2

USACE NY District*

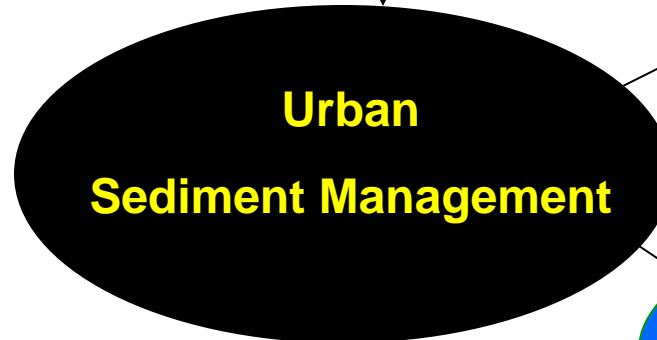
NDT/RDT Annual Meeting / 20-23 April 2009



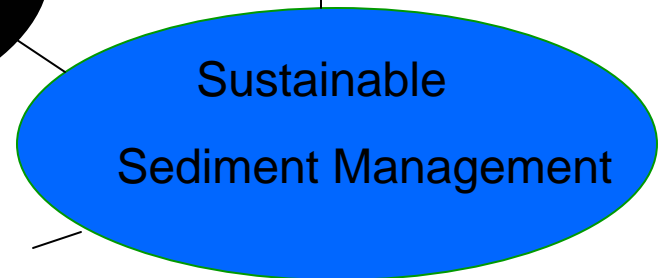
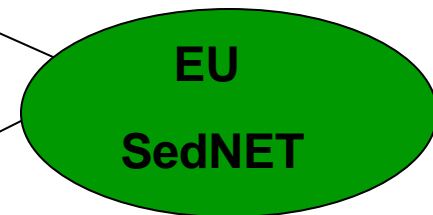


Federal – State – City
Port Authority
Environmental –
Public
Cross-Program

Sediment Quality
Quantity
Dredged Material Management



Contaminated Sediments
Ports and Waterways



Stern, 2008 (SedNet-Oslo)

Long – Term Implementation / Monitoring (NRC)

Regional Sediment Management

-Solution Orientated-

- **System-based (*watershed*) approach** that seeks to solve sediment-related problems by designing solutions that fit within the context of a ***regional strategy*** and sediment system
 - Recognizes sediments as a **resource**
 - Sediment processes (coastal/estuarine)
 - Integral to environmental / economic vitality
 - Engage Stakeholders
 - Achieve **long-term balance** and **sustainable solutions**

RSM Sediment Sustainability

Historical –
Economic Engine



Present



Gowanus Canal – Brooklyn, New York

Future



TMDLs

CSOs

Linkage
between
sediment
remediation /
restoration
and upland
economic
development

RSM Background.....

- Developed under NY & NJ Harbor Estuary Program (USEPA National Estuary Program authority)
- Original issues were Port / dredging related
- By 2006, realized issues were broader than just dredging
 - Harbor Estuary Program (workgroups , CARP)
 - O&M Navigation
 - Superfund
 - Regional Dredging Team
- Proposed to Policy Committee of NY & NJ HEP:
Form an ad-hoc Workgroup to develop a Regional Sediment Management Program for the NY & NJ Harbor Estuary

Background – con't

- In determining progress on HEP CCMP initiatives it became apparent that there was no comprehensive program to manage sediments
 - “Clean Sediments and Navigation” – HEP
- USEPA-USACE developed a white paper
 - Need for RSM
- Discussed with HEP Mgmt. Cmte
- Discussed with HEP Policy Cmte that a workgroup was needed to develop a RSM Plan

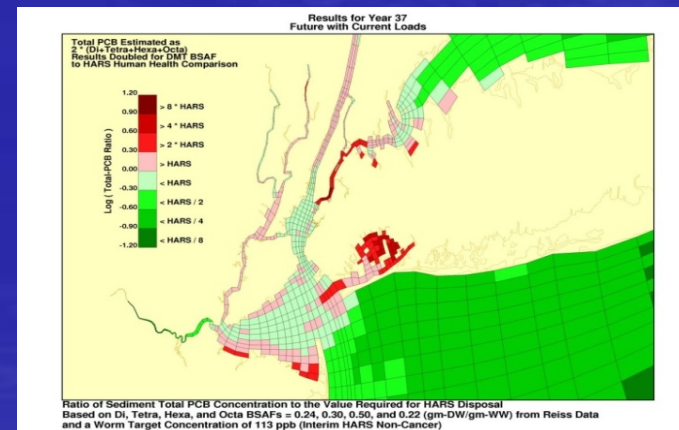
Challenges

- Contaminated sediments adversely affect the estuarine ecosystem, public health and the economy of the region
- The quantity of sediments depositing within the estuary can be both beneficial (i.e., in maintaining wetlands) and detrimental (i.e., in navigation channels)
- Dredging and dredged material management require improvement



Impediments to solving those problems

- Sediment management is spread among many authorities and jurisdictions
- Some issues, like contaminant reduction for dredged material purposes, lack traditional authorization to resolve
- No current HEP or other framework to deal with sediment issues on a regional scale



RSM Workgroup Concepts

- WG would focus on a **single** mission:
 - Development of a RSM Plan
 - Not general sediment issues
- WG would be **ad-hoc**
 - Dissolve when mission is completed
- WG would be **small** and include individuals who have program **experience**, knowledge and **technical** background to develop a RSM Plan
- WG would **submit** RSM Plan to Policy Cmte for approval and **implementation**
 - Determine resources

Timing is Now

- HEP CCMP Target and Goals / re-visited
- NY/NJ Harbor Roundtable highlighted sediment quality improvement as a major issue
- Contaminant Assessment Reduction Program (CARP) modeling tools becoming available
- Hudson Raritan Estuary comprehensive restoration planning in formative stage
- USACE DMMP updated
- Harbor deepening is underway
- Superfund – Passaic and Hudson Rivers
- National initiatives
 - USEPA URRI, USACE RSM, Greenports, and Regional Port Initiatives

Workgroup Structure

- **Focus on Action**

- Not a general (let it all hang out) issue WG

- **Group has a Management Focus**

- Primary purpose of recommending a comprehensive RSM Plan for consideration / approval of the HEP Policy Committee
- System-wide / watershed approach

- **Workgroup Participants**

- Federal
 - USACE/USEPA
- State
 - NJDEP: Watershed Mgmt
 - NJDOT: Office of Maritime Resources
- Local
 - NYC Economic Development Corporation
 - NYCDEP
 - Port Authority of NY&NJ
- NGOs
 - Hudson River Foundation
 - Clean Ocean Action
 - NY&NJ Harbor Baykeeper

NY/NJ HARBOR Regional Dredging Team



US Army Corps
of Engineers®



NJMR

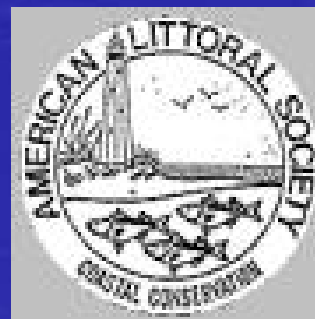
NY/NJ HARBOR NGOs

- Hudson River Foundation
- Environmental Defense Fund
- Clean Ocean Action
- NYC Soil & Water Conservation
- Natural Resources Defense Council
- Baykeeper/Riverkeeper
- others...

HUDSON RIVER FOUNDATION
For Science & Environmental Research

e

ENVIRONMENTAL DEFENSE
finding the ways that work



Accomplishments to Date.....

- Key stakeholders (agencies & organizations who have often been at odds with one another for many years) participated in a collaborative process
- Workgroup developed a three-component plan (**Sediment Quality, Sediment Quantity, & Dredged Material Management**)
 - *WG went beyond development of just a scope and structure for a program*
 - Developed 8 objectives and over 44 specific recommendations (i.e., things to do)
- Final report completed and submitted to Policy Committee

Sediment Quality:

To manage the quality of sediment to achieve the above goal, the RSMP will address issues concerning newly introduced sediments and historic (legacy) contamination.

Newly Introduced Sediments

Ensure that they
enter the system
“clean “

Ensure that they
remain Clean

Historic (Legacy) Contamination

Reduce
Direct
Exposure

Reduce Transport
to other areas

Sediment Quantity:

To manage the quantity of sediment to achieve the above goal, the RSMP will consider the relationship of sediment quantity to estuarine ecological processes and channel sedimentation

Estuarine Processes

Is there
enough
where you
need it?

Is there too
much where you
don't want it?

Navigation Channel Sedimentation

Reduce dredging needs

Dredging:

In order to achieve the above goal, the RSMP will address navigational dredging and dredged material management

Navigational Dredging



Dredging
techniques,
resuspension,
etc.

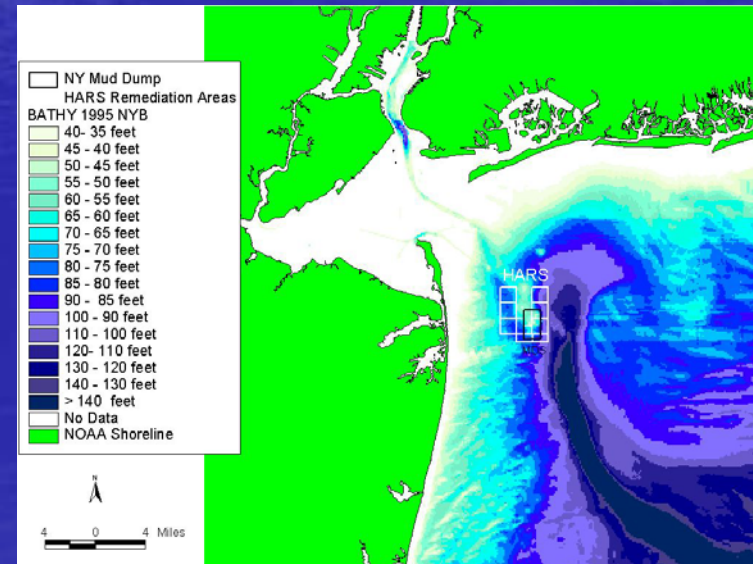
Dredged Material Management



Dredged material
placement planning,
HARS,
Decontamination,
Beneficial uses

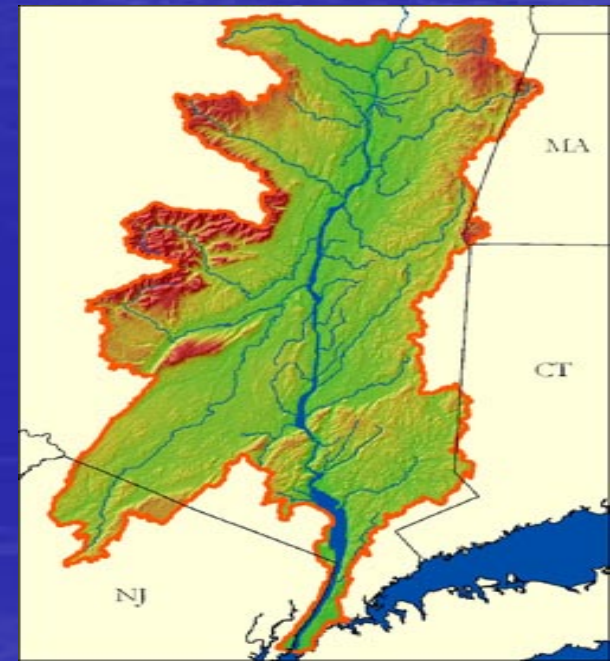
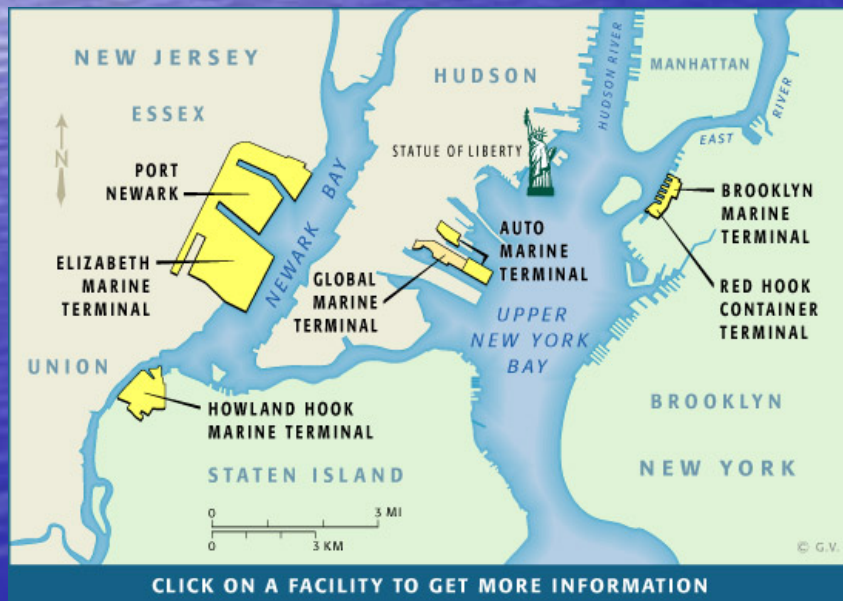
Sediment Quality Objectives

- Ensure new sediments are clean
- Ensure new sediments entering the system remain clean
- Reduce toxic exposure
- Reduce transport of contaminants to other areas



Sediment Quantity Objectives

- Ensure sufficient sediment to support healthy ecosystem processes
- Reduce sediment deposition in shipping channels / berths



Dredged Material Objectives

- Improve dredging operations
- Improve dredged material management
- Beneficial Use



Benefits of RSM

- *Cost savings* - reduced need to dredge and cleaner dredged material
- *Improved habitat quality* - cleanup of contaminated sediments
- *Improved availability of habitat* – sediments back into “sand starved” systems
- *Shared regional-scale data management systems, models and other scientific tools*
- *Improved relationships between agencies and the public* - opportunities for collaboration and pooled resources
- *Improved predictability of the regulatory processes* - better intergovernmental coordination.

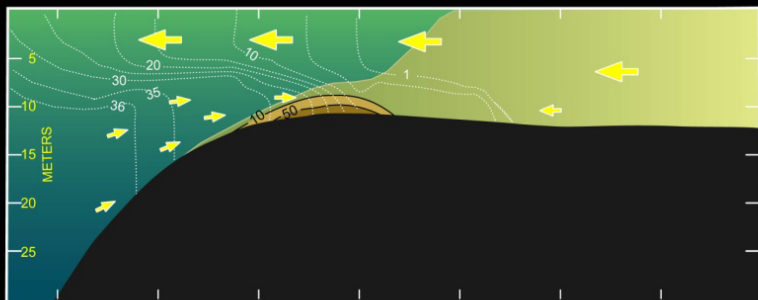
Key Recommendations

- **GOVERNANCE/COORDINATION**
- Create a Regional Sediment Management advocate at the State level in NY & NJ
- Strengthen regional coordination and consistency (dredging windows, beneficial uses, ID of upland placement sites, sedimentation control, etc.)
- Fully engage the public early on, in priority setting and planning activities



Key Recommendations (Cont.)

- TECHNICAL/ACTION
- Develop a sediment quality map that prioritizes areas for action
- Accelerate Hudson River and Passaic River cleanup projects
- ID watersheds with excessive sediment loads and develop plans to reduce loads
- Update technical information through research, monitoring and modeling
 - Develop sediment transport models
 - CARP model updates



Next Steps.....

- Adopt the vision, objectives and recommended actions
- Provide administrative funding
- Establish new HEP workgroup: RSM Workgroup
- *ID and empower RSM Advocates in each state (NY & NJ)*
- Establish and sustain robust public involvement
- Support the technical, policy and research objectives
- Establish long-term funding mechanism

